

CLAIMS PENDING IN THE APPLICATION

1. (previously presented): A writing element comprising:
a writing pole having a pole tip and extending therefrom to
a back gap region;
a conducting coil wrapped around the writing pole in a
helical fashion; and
an insulating material between the writing pole and the
conducting coil;
wherein the magnetic signals are not conducted to the
writing pole at the back gap region through a return
pole element.
2. (canceled)
3. (withdrawn): The writing element of claim 1, wherein the
conducting coil is formed of first and second coil layers
respectively positioned above and below the writing pole and
connected through a vertical via.
4. (original): A read/write head including:
the writing element of claim 1; and
a read element having a read sensor sandwiched between top
and bottom shields.
5. (original): A disc drive storage system including the writing
element of claim 1.
6. (withdrawn)(previously presented): The writing element of
claim 1, including an auxiliary pole displaced from the writing
pole at the gap region and having a pole tip that is separated
from the pole tip of the writing pole by a writer gap.

7. (previously presented): A perpendicular magnetic writing element comprising:

 a writing pole having a pole tip and extending therefrom to a back gap region;

 a conducting coil wrapped around the writing pole in a helical fashion; and

 an insulating material between the writing pole and the conducting coil;

 wherein the magnetic signals are not conducted to the writing pole at the back gap region through a return pole element.

8. (canceled)

9. (withdrawn): The writing element of claim 7, wherein the conducting coil is formed of first and second coil layers respectively positioned above and below the writing pole and connected through a vertical via.

10. (original): A read/write head including:

 the writing element of claim 7; and

 a read element having a read sensor sandwiched between top and bottom shields.

11. (original): A disc drive storage system including the writing element of claim 7.

12. (withdrawn) (previously presented): A longitudinal magnetic writing element for recording data to a hard magnetic recording layer of a rotating disc, the writing element comprising:

 a writing pole having a pole tip at an air bearing surface

(ABS) and extending substantially perpendicularly therefrom to a back gap region;
an auxiliary pole displaced from the writing pole at the back gap region, the auxiliary pole having a pole tip at the ABS that is separated from the pole tip of the writing pole by a writer gap;
a conducting coil wrapped around the writing pole in a helical fashion; and
an insulating material between the writing poles and the conducting coil;
wherein the writing element is free of return pole elements that form a return path through which the magnetic signals are conducted to the back gap region.

13. (canceled)

14. (withdrawn): The writing element of claim 12, wherein the conducting coil is formed of first and second coil layers respectively positioned above and below the writing pole and connected through a vertical via.

15. (withdrawn): A disc drive storage system including the writing element of claim 12.

16. (withdrawn): A read/write head including:
the writing element of claim 12; and
a read element adjacent the ABS and having a read sensor sandwiched between top and bottom shields.

17. (previously presented): A perpendicular magnetic writing element comprising:
a perpendicular writing means for conducting magnetic

signals used to write data, wherein magnetic signals are not conducted to the perpendicular writing means at a back gap region through a return pole element; and a conducting coil wrapped around the writing means in a helical fashion.

18. (original): The writing element of claim 17, wherein the perpendicular writing means includes a writing pole having a pole tip and extending therefrom to the back gap region.

19. (withdrawn) (previously presented): The writing element of claim 18, including an auxiliary pole displaced from the writing pole at the back gap region, the auxiliary pole having a pole tip that is separated from the pole tip of the writing pole by a writer gap.

20. (canceled)

21. (withdrawn): The writing element of claim 17, wherein the conducting coil is formed of first and second coil layers respectively positioned above and below the perpendicular writing means and connected through a vertical via.

22. (original): A read/write head including:
the writing element of claim 17; and
a read element having a read sensor sandwiched between top and bottom shields.

23. (original): A disc drive storage system including the writing element of claim 17.